

ICF AEM Project

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Pre-requisites

- Java JDK 1.8 +
- Maven 3+
- IDE – Eclipse or any of your choice
- AEM 6.5
- Proficient in AEM development Java, JavaScript, HTML, CSS

Description

Develop an application that displays weather data on the webpage.

1. Current Weather - The following data should be shown on the page for a given city name and country code.
 - Current weather with description
 - Current temperature
 - Maximum temperature
 - Minimum temperature
 - Humidity
2. Hourly forecast for 48 hours
 - Forecasted weather with description
 - Temperature
 - Pressure
 - Humidity
3. 5 Day / 3 Hour Forecast
 - Forecasted weather with description
 - Sunrise time
 - Sunset time
 - Max temperature
 - Min temperature
 - Humidity
4. Ground Water levels
On a different page populate a dropdown with a list of cities. The minimum and maximum ground water levels for the selected city should be displayed. This information should be authored in the AEM platform. Develop a custom component with a dialog for authoring this information.

Implementation guidelines

Weather API

1. Use the [Open Weather API](#) to get the current weather
2. Write an OSGI service that calls the Open Weather API from backend
3. The service should provide configurations for the following
 - a. API url

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- b. API key
- 4. Implement a servlet that calls this service to get the required information
- 5. Once the information is displayed on the page, it should automatically get refreshed every minute

Ground water level

1. Create a component that allows authors to enter the following information in the dialog
 - a. City name
 - b. Minimum water level
 - c. Maximum water level

Design guidelines

Archetype

Use maven archetype to create a new AEM project by running the below command in command prompt.

```
mvn -B archetype:generate -D archetypeGroupId=com.adobe.aem -D aemVersion=6.5.7 -D archetypeArtifactId=aem-project-archetype -D archetypeVersion=30 -D appTitle="Weather site" -D appId="weathersite" -D groupId="com.icf.weathersite"
```

Frontend

1. Create clientlibrary to package JS and CSS code
2. Use JavaScript ajax to make call to the servlet to fetch the data
3. Design the page using HTML and CSS using AEM

Backend

1. Servlet – The ajax call from frontend calls this servlet to get the data
2. Weather Service – An OSGI service that calls the Open Weather API to get the data
3. Sling model – create Sling model to adapt to the “ground water level” data
4. Scheduled task – Create a scheduled task that activates the pages periodically every one hour

Components and Templates

1. Create one editable template for the page
2. Create one component for authoring the ground water level information

Authoring

1. Authors should be able to add the “Ground water level” component on the page
2. Open the edit dialog and “ground water level” information for any number of cities
3. The dialog should have a multi field for adding the information

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4. The information should be saved in the JCR repository

Wireframes

Display list of cities for ground water level

1. Authoring dialog – Create a multifield in the dialog. Each multifeild will have three properties
 - a. City name
 - b. Min water level
 - c. Max water level

The water levels for each city should be manually entered by the author and then published.

A Web Page

Water level component

City Name	Bengaluru	▲
Min water level	150	▼
Max water level	300	

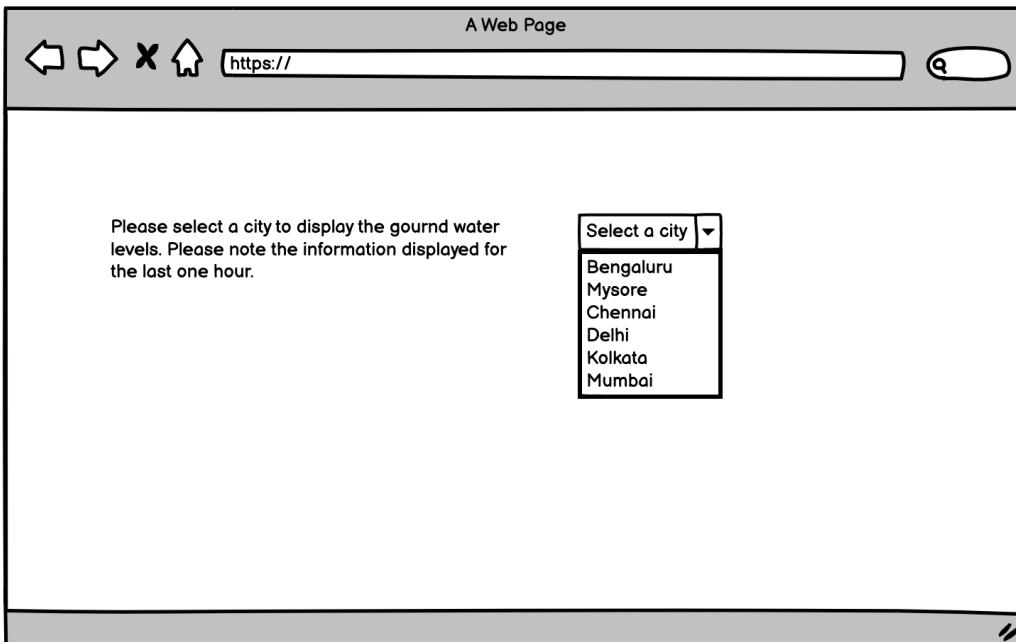
City Name	Mysore	▲
Min water level	200	▼
Max water level	400	

Add

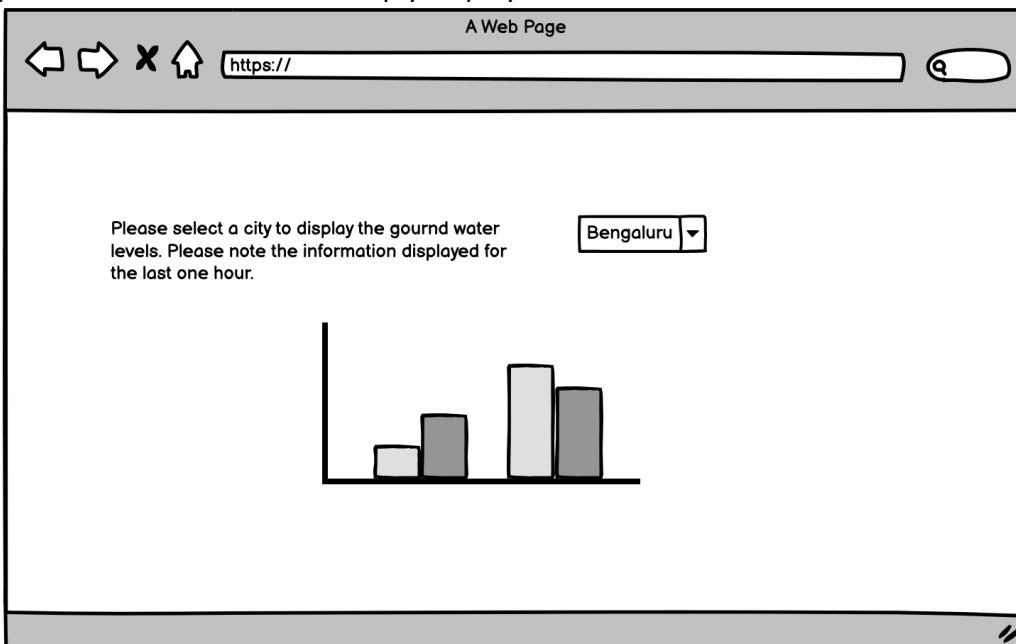
2. Publisher page

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In the published page, the drop down is populated using the city names entered in the authoring dialog. Use Sling model to get the data and then render the dropdown list using slightly script. After a city is selected, make an ajax call to get the water levels for that city from the jcr repository and display it on the page.



Show the water levels for the selected city. Implementing a graph is not mandatory, do it only if you have time. Otherwise simply display the data as text values.



Weather page

[Document Title]

A Web Page

https://

Enter a city name, country ID and geo location of that country to see the weather forecast

City Country code Lattitude Longitude

Weather details

A Web Page

https://

Enter a city name and the country ID to see the weather forecast.
Please use ISO-3166 country codes

City Country code Lattitude Longitude

Current weather

Drizzle, light intensity drizzle
Current temperature : 80 F
Maximum temperature : 90 F
Minimum temperature : 70 F
Humidity : 81

Hourly forecast for 48 hours

Clouds, broken clouds
Sunrise time : 6.00 am
Sunset time : 6.30 pm
Max temperature : 90 F
Min temperature : 70 F
Humidity : 80

Climate forecast for 30 days

Rainy, rains with thunder show
Sunrise time : 6.00 am
Sunset time : 6.30 pm
Max temperature : 90 F
Min temperature : 70 F
Humidity : 80

References:

Open weather API

[Document Title]

1. <https://openweathermap.org/current#name>
2. <https://openweathermap.org/forecast16#name16>
3. <https://openweathermap.org/api/forecast30#name-year>

JavaScript Geolocation API

1. https://www.w3schools.com/html/html5_geolocation.asp

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